

7.

A *Résumé of Mexican Snakes of the Genus Tantilla.*

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Thirty-six species of *Tantilla* have been described or recorded (including the present article) from North America (with Mexico). Five of these have been synonymized with others (*bimaculata* with *calamarina*, *boulengeri* with *miniata*, *hallowelli* with *gracilis*, *kirnia* and *praeocula* with *fumiceps*). Of the remaining thirty-one, four may be eliminated as not belonging to *Tantilla*. *T. lintoni* and *brevissima* have been separated from this genus elsewhere (placed in *Tantillita*). *Tantilla depressa* is a synonym of *Geagras redimitus*.

Tantilla nelsoni Slevin (*Proc. Calif. Acad. Sci.*, ser. 4, vol. 15, 1926, pp. 200-201, María Madre Island, Nayarit, Mexico) is certainly not of this genus, differing from all other *Tantilla* in the possession of an undivided anal, entire nasal, 1-2 temporals, and white bands completely encircling a black body and tail. This combination of characters, together with absence of a loreal, and smooth scales in 15 rows, is unique in snakes, so far as I can determine. Accordingly, for this species I propose the generic name *Exelencophis*.¹

The twenty-seven remaining North American species belong to five major species groups. These may be further subdivided, forming nine groups, some of which may again be subdivided. The ultimate process of subdivision into the smallest practical super-specific groups reveals fourteen divisions, as shown in the accompanying diagram. The characters of the groups and subdivisions follow.

I {	a {	1 {	<i>moesta</i>
		2 {	<i>deppei</i>
		3 {	<i>mexicana</i>
		4 {	<i>jani</i> <i>striata</i>

III {	d {	5 {	<i>cuniculator</i> <i>phrenitica</i>
		6 {	<i>deviatrix</i> <i>miniata</i> <i>rubra</i> <i>coronata</i> <i>wagneri</i>
		7 {	<i>wilcoxi</i> <i>rubricata</i>
		8 {	<i>bocourti</i>
IV {	e {	9 {	<i>canula</i>
		10 {	<i>calamarina</i> <i>martindelcampoi</i>
		11 {	<i>gracilis</i>
		12 {	<i>nigriceps</i> <i>fumiceps</i>
V {	f {	13 {	<i>atriceps</i> <i>utahensis</i> <i>hobartsmithi</i>
		14 {	<i>planiceps</i> <i>eiseni</i> <i>yaquia</i>

- I. Belly black; collar very broad.
- II. Large bodied; ventrals not reduced; head not conical; lined.
 - b. Dark middorsal line; secondary temporal scale-like.
 2. Nuchal collar near parietal.
 3. Collar if present on posterior part of neck.
- c. Light lined; secondary temporal elongate.
- III. Collared; body form as in II; not lined.
 - d. Secondary temporal elongate.
 5. Back dark, sharply differentiated from ventral color.
 6. Back dark or light but not sharply differentiated from ventral color.
 7. Posterior border of collar very narrow; black of head not emarginate behind eye.
 - e. Second temporal scale-like, broad or long.
- IV. Head conical; no collar; ventrals reduced; body short; temporal single or secondary temporal scale-like.
 - f. Supralabials normal, seven.
 - g. Supralabials reduced, six.
 10. Lined (three dark).
 11. Not lined.

¹ An effort was made to investigate more fully the characters of this curious species, but Dr. Slevin informs me that the type and only example known is lost.

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- V. Light above; collar absent or poorly defined.
 h. Black head cap pointed behind; no evidence of a collar.
 i. Black head cap straight edged posteriorly, a collar.
 13. Head cap extending 2-4 scales behind head, also below angle of mouth.
 14. Head cap extending 1-2 scales behind head, not to angle of mouth.

I am indebted to Dr. Thomas Barbour, Mr. Benjamin Shreve, Dr. Joseph R. Slevin and Dr. E. H. Taylor for loan of specimens and other assistance. A number of specimens were secured (including types of *wilcoxi rubricata*), and the entire study was completed, during tenure of the Walter Rathbone Bacon Traveling Scholarship.

Only diagnoses of Mexican species are given in the following. For diagnoses of United States species not here included, see Blanchard's synopsis (*Zool. Ser. Field Mus. Nat. Hist.*, vol. 20, 1938, pp. 369-376).

Tantilla atriceps (Günther).

Homalocranium atriceps Günther, Biol. Centr. Amer., Rept., 1895, p. 146, pl. 52, fig. B.
Tantilla atriceps Amaral, Mem. Inst. Butantan, vol. 4, 1929, p. 218.

Type Locality. Nuevo León, Mexico.

Diagnosis. Body generally light above and below; a dark brown head cap, truncate posteriorly, extending one or one and a half scale lengths posterior to parietals; cap not extending below angle of mouth; a faint light collar covering about one scale length, not bordered posteriorly by a distinct black line; seven upper and lower labials; one preocular; two or rarely one postoculars; two elongate temporals, separating labials and parietal; prefrontals and labials separated; mental in contact with chinshields, rarely not (type); ventrals 123 to 158; caudals 55 to 70 (males 54 to 70, females 51 to 64).

Mexican Localities. Nuevo León (types, Brit. Mus.); 4 miles west of Saltillo, Coahuila (EHT-HMS 4555); 102 kilometers north of San Luis Potosí (EHT-HMS 23474-5).

Specimens Examined. Eight.

Remarks. Through the courtesy of Dr. Howard K. Gloyd I have been enabled to examine data on 50 specimens not seen by me, data for which were recorded by Dr. F. N. Blanchard. These show the existence of a great amount of variation in number of postoculars, ventrals and caudals. While variation in number of postoculars does not seem to have geographic correlation, the variations in ventral and caudal counts do have. The range of variation in ventral counts in males is 123 to 149; in females, 138 to 158. A comparison with the table of

variation given by Blanchard (*op. cit.*, p. 376) yields interesting results. In the nine forms (other than *atriceps*) listed by him, the maximum range of variation in males is 14, in females 23 (by error?). Since errors in determination of sex frequently occur in these small snakes, more significant is the range of both sexes combined; in *atriceps* it is 36, but in other forms it does not exceed 27. Most closely comparable to the range of variation in *atriceps* is that of *coronata* (including *wagneri*), which has range of 30. *T. atriceps*, having higher average counts than *coronata*, could be expected to have a greater range of variation, and does. Accordingly, the existence of two forms in *atriceps* is very strongly indicated. Unfortunately differentiation in ventral counts in *atriceps* is not accompanied by differences in color, as in *coronata*, nor is the area of intergradation between the two extremes of ventral counts as well defined in *atriceps* as in the latter.

The species rather obviously is in the process of either differentiation of two incipient subspecies (species), or of assimilation of two previously distinct species. It is difficult to know into which category *atriceps* should be placed. While the specimens from extremes of the range are easily distinguished, the character of the species in the broad area between (including northern Coahuila, western Texas) is not known except from a series from a single locality (Chisos Mts.). These exhibit no great range of variation (20, both sexes), but unfortunately straddle the middle of the range of counts for the whole species, so that some are very typical of Mexican specimens, others (the majority) typical of Arizona specimens (range 132 to 151). While it admittedly remains possible that two subspecies may be satisfactorily distinguished when larger series from more numerous localities are available, it does not seem practical to attempt subdivision of the species at present.

Tantilla bocourti (Günther).

Homalocranium bocourti Günther, Biol. Centr. Amer., Rept., 1895, p. 149.

Type Locality. Guanajuato.

Diagnosis. Light above and below (young may be darker above, but this color shading into white of ventral surface); head black or dark brown above; first and fifth labials, and lower parts of other labials (except seventh) white; internasals white; a white nuchal collar covering one and one half scale lengths on nape, usually not involving tips of parietals, but bordering them; nuchal collar divided on midline or not; collar dark-bordered posteriorly by an area one scale in length or less; seven upper and lower labials; one preocular; two postoculars; two

temporals, the anterior elongate and in contact with postoculars, the posterior about as broad as long, scale-like; prefrontal separated from labials; first lower labials in contact medially, occasionally not; ventrals 164 to 185 (195?); caudals 46 to 61.

Mexican Localities. Known from the states of Jalisco (Magdalena, Guadalajara), Morelos (Cuernavaca, 8 kilometers north-east of Cuernavaca), Guanajuato (Guanajuato), Distrito Federal, Veracruz (Mirador), Guerrero (Omiteme), Puebla (22 kilometers north of Tehuacán, 10 miles northeast of Tehuacán), Michoacán (4 miles east of Tuxpam, between Zitácuaro and Río Tuxpam).

Specimens Examined. Thirty-one.

Remarks. As pointed out by Taylor & Smith (*Univ. Kans. Sci. Bull.*, vol. 25, 1939, p. 254), there is a discernible difference between eastern and western specimens in ventral, caudal and total counts. These indicated that two races are recognizable. However, further material has not borne out these supposed differences, but has shown that too great an overlap exists to permit separation. The counts are compared below.

		Ventrals	Caudals	Totals
males	western	165-180 (11)	52-65 (11)	219-244 (11)
	eastern	164-176 (4)	48-57 (4)	221-228 (4)
females	western	169-186 (12)	46-59 (12)	225-239 (12)
	eastern	166-173 (4)	46-52 (4)	216-221 (4)

Tantilla calamarina Cope.

Tantilla calamarina Cope, *Proc. Acad. Nat. Sci. Phila.*, 1866, p. 320.
Tantilla bimaculata Cope, *Journ. Acad. Nat. Sci. Phila.*, ser. 2, vol. 7, 1875, p. 143 (Mazatlán, Sinaloa).

Type Locality. Guadalajara, Jalisco.

Diagnosis. Body light gray above, white below; three dark dorsal lines, the median spreading over most of top of head; lateral stripes on adjacent halves of third and fourth scale rows, extending onto head and not uniting with median dark area on head; six upper, six or seven lower labials; one preocular (rarely extremely minute and prefrontal entering eye), one postocular; one elongate temporal, in contact or not with postocular; prefrontals and labials separated or not; mental and chinshields in contact; ventrals 119 to 132; caudals 27 to 35.

Mexican Localities. Known from the states of Colima (Colima, Quesería, Tecmán), Distrito Federal (Santa Fé), Jalisco (Guadalajara), Morelos (4 miles south and 8 kilometers east of Cuernavaca), Nayarit (Sierra de Nayarit, San Blas, El Ocotillo), Puebla (Teziutlán) and Sinaloa (Mazatlán).

Specimens Examined. Six.

Remarks. This is related to *martindelcampoi*, which also has a dark-lined pattern, one temporal, degenerate head scales (fusion), and few ventrals and caudals. On the basis of lined pattern, *deppei* belongs with this group, but it has normal head scales.

Tantilla canula Cope.

Tantilla canula Cope, *Journ. Acad. Nat. Sci. Phila.*, ser. 2, vol. 8, 1876, p. 144.

Type Locality. Yucatán.

Diagnosis. Body light gray above, stippled, white below; a middorsal light streak, not well defined; head reticulated, top lighter than sides; seven upper and seven lower labials; one preocular, two postoculars; two temporals, the anterior broad and scale-like (nearly as broad as long), the secondary more elongate; labials separated from parietals or not; prefrontals and labial separated; mental and chinshields in contact or not; ventrals 105 to 114, caudals 36 to 43.

Mexican Localities. Several specimens bear the locality datum "Yucatán." The only definite record is from Chichen Itza.

Specimens Examined. Four.

Remarks. As indicated by body form, shape of head, and low number of ventrals and caudals, the species appears to be related to *calamarina* and its allies. It is considerably different from the latter group in having the normal quota of head shields. It shows a great similarity to *vermiformis* of Central America.

Tantilla cuniculator Smith.

Tantilla moesta cuniculator Smith, *Zool. Ser. Field Mus. Nat. Hist.*, vol. 24, 1939, pp. 32-34.

Type Locality. Mérida, Yucatán.

Diagnosis. Dark above, white below; a dark lateral area sharply differentiated from a somewhat lighter middorsal color and from white ventral surface; nuchal collar involving posterior tip of parietals; a very dim dorsolateral light stripe between lateral and dorsal areas; seven upper and lower labials; one preocular; two postoculars; two temporals, elongate, the anterior in contact with postoculars; prefrontals separated from labials; mental in contact with chinshields or not; ventrals 140 to 154; caudals 49 to 53.

Mexican Localities. Known only from the type locality.

Specimens Examined. One.

Remarks. This species may be related to *phrenitica*, with which its counts, and some details of coloration, compare well.

***Tantilla deppei* (Bocourt).**

Homalocranium deppei Bocourt, Miss. Sci. Mex., Rept., 1883, pp. 584–585, pl. 36, fig. 11.

Homalocranium deppei Günther, Biol. Centr. Amer., Rept., 1895, p. 151.

Homalocranium miniatum Boulenger (nec Cope), Cat. Snakes Brit. Mus., vol. 3, 1896, p. 222.

Type Locality. Mexico.

Diagnosis. Pale brown, with a median and two lateral dark lines; a nuchal collar, complete except medially; ventral surface white; seven upper and lower labials; one preocular; two postoculars; two temporals separating labials from parietals, the secondary perhaps scale-like (see Bocourt's fig.); prefrontals and labials separated; mental in contact with chinshields; ventrals 147 to 152, caudals 55.

Mexican Localities. Known only from "southern Mexico."

Specimens Examined. None.

Remarks. The relationships of this form are difficult to determine. The lined pattern is suggestive of the *calamarina* group, but the scutellation and body form are different in all important respects. It most closely agrees with the *melanocephala* group, including *mexicana* and *armillata*. The small posterior temporal corresponds with this arrangement, but there is a nuchal collar, which does not occur in other members of the group (with a posterior neck collar).

***Tantilla deviatrrix* Barbour.**

Tantilla deviatrrix Barbour, Proc. Biol. Soc. Wash., vol. 29, 1916, p. 94.

Type Locality. San Luis Potosí, San Luis Potosí.

Diagnosis. Body light above and below, stippled above (said to be reddish in life); top of head light brown anteriorly, becoming black posteriorly; a white nuchal collar, involving tips of parietals, covering about two scale lengths, followed by a black border of about equal size; head cap extending laterally only to upper part of last labial, not reaching labial border posteriorly; upper labials white, sharply differentiated from dorsal color; an indentation of head cap behind eye, reaching to lower edge of upper preocular; seven upper and lower labials; one preocular; two postoculars; temporals elongate, the anterior in contact with postoculars; prefrontals and labials separated;

mental and chinshields separated; ventrals 154 to 160; caudals 63 to 66.

Mexican Localities. The type locality and Alvarez, San Luis Potosí.

Specimens Examined. One.

Remarks. This species is well differentiated from *bocourti* by the elongate secondary temporal. From *wilcoxi* it differs in the mental character (touching chinshields in *wilcoxi*), greater width of posterior black border of nuchal collar (one scale length or less in *wilcoxi*); and in various features of the coloration and the sides of the head.

***Tantilla hobartsmithi* Taylor.**

Tantilla hobartsmithi Taylor, Trans. Kans. Acad. Sci., vol. 39, 1937, pp. 340–342, fig. 2.

Type Locality. La Posa, ten miles northwest of Guaymas, Sonora.

Diagnosis. Body light above and below; a black cap on head, truncate and straight-edged posteriorly, extending about one scale length on nape; black of head not extending below angle of mouth onto gular scales; a very dim, narrow light collar one scale wide, or less, not dark-bordered posteriorly; a fine, but very distinct, middorsal black line; seven upper and lower labials; one preocular; one postocular (probably varies, one or two); anterior temporal relatively broad, but longer than broad, in contact with postocular; a secondary and also tertiary temporal; prefrontals separated from labials; mental separated from chinshields; ventrals 129, subcaudals 53.

Mexican Localities. Known only from the type locality.

Specimens Examined. One.

Remarks. Closely related to *atriceps*, which agrees in most characters of scutellation, and pattern. The latter also occasionally shows a faint middorsal dark line, which might appear more obvious (or not) in specimens dried as is the type of *hobartsmithi*. The latter is tentatively regarded as distinct through its possession of three temporals and the distinct middorsal black line, correlated with the fact that no *atriceps* have been collected near its type locality. Only further specimens will show whether these characters are invariable.

***Tantilla jani* (Günther).**

Homalocranium jani Günther, Biol. Centr. Amer., Rept., 1895, p. 148, pl. 52, fig. D.

Type Locality. Guatemala.

Diagnosis. Ground color brown; three narrow, black-edged white lines, the median involving the vertebral scale row, the lateral stripes involving adjacent halves of the third and fourth scale rows; median stripes

sometimes not white, but brown, as ground color, but its dark edges evident; a complete nuchal collar, about one and one half scale rows wide, involving tips of parietals; seven labials; one preocular; two postoculars; two elongate temporals, anterior broader than posterior; ventrals 139 to 154, caudals 40 to 50 (in 22 specimens).

Mexican Localities. La Esperanza, Chiapas, and Tapanatepec, Oaxaca.

Specimens Examined. Twenty-two.

Remarks. The cotypes are two, one from Guatemala, the other from "Hacienda Rosa de Jericho, Nicaragua" (*vide Boulenger*, Cat. Snakes, vol. 3, 1896, p. 221; Günther says Matagalpa). The Nicaragua specimen has 136 ventrals, and no lateral light stripe, and accordingly I do not believe it is the same as the Guatemala specimen (the one figured by Günther) which I designate lectotype. The specimens from Finca El Ciprés, Volcán Zunil, Guatemala, reported by Slevin (*Proc. Calif. Acad. Sci.*, ser. 4, vol. 23, 1939, p. 411) as *fusca* I have seen and cannot differentiate from the Chiapas and Oaxaca specimens above mentioned.

Comparisons. The present species may be compared with those included by Boulenger in *trilineata* and *fusca*. Since the original descriptions indicate that his synonymies of these two are perhaps not wholly correct, *jani* is compared directly with the original descriptions.

T. fusca Bocourt, 1883 (Guatemala)—uniform light brown above, 137 ventrals, more than 34 caudals; Guatemala. Absence of all markings, including collar and longitudinal lines, does not describe *jani*. Boulenger's description of *fusca* says "Brown above, with or without a light, dark-edged lateral line, with or without a blackish vertebral line; head dark brown or blackish above, with yellow markings as in *H. melanocephalum*." This remarkable composite description is based upon the original description of *fusca*, two cotypes of *jani* (which apparently represent two species), and upon a specimen from Dueñas, Guatemala (this is the one with a dark vertebral stripe) referred by Günther to *armillatum*, but which is not that at all but possibly is the same as Günther's *mexicana* (or is an unnamed species). The specimen from Cartago, Costa Rica, referred by Boulenger to *melanocephala*, was apparently correctly allocated with *armillata* by Günther. The latter differs from South American *melanocephala* at least in ventral counts.

T. trilineata Peters, 1880 (Guatemala, Honduras)—lateral light stripe "running on the third scale row"; whole gular region apparently pigmented, at least the lower labials not heavily nor distinctively pig-

mented; no light internasal spot; ventrals 145; caudals 41.

T. taeniata Bocourt, 1883 (Guatemala)—median stripe continuous, covering at least a full scale width; dark borders not evident, nor dotted lines on fifth, sixth and first scale rows; lower labials not pigmented; stripes said to be half width of interspace (much less in *jani*); 149 ventrals; 68 caudals.

T. trivittata Müller, 1885 (Guatemala, Honduras)—said to have six upper labials.² Median stripe one and one-half scale rows wide, extending to end of tail; lateral stripes to middle of tail.

The species synonymized by Boulenger with *virgata* appear more distantly related, having the light lines and interspaces of about equal width.

Tantilla martindalcampoi Taylor.

Tantilla martindalcampoi Taylor, *Trans. Kans. Acad. Sci.*, vol. 39, 1937, pp. 347-348, fig. 6.

Type Locality. El Treinta, Guerrero.

Diagnosis. Gray, with three broad, dark stripes on body and tail, the median one and two half scale rows wide, spatulate on head; lateral stripes on adjacent halves of fourth and fifth rows, connecting above eye with spatulate median stripe; six upper and seven lower labials; no preocular; one postocular; one elongate temporal, in contact with postocular; prefrontals broadly in contact with labials; mental in contact with chinshields; ventrals 114, subcaudals 39.

Mexican Localities. Known only from the type locality.

Specimens Examined. Two.

Remarks. Related to *calamarina* (see discussion).

Tantilla mexicana (Günther).

Elapomorphus mexicanum Günther, *Ann. Mag. Nat. Hist.*, ser. 3, vol. 9, 1862, p. 57, pl. 9, fig. 1.

Type Locality. Mexico.

Diagnosis. Black head cap extending onto neck several scale lengths, followed by a light ring or a pair of spots; a middorsal dark line, and perhaps a lateral also; dorsal surface generally brown; dark area on head reaching to labial border below eye and at the seventh labial; seven upper and lower labials; one preocular; two postoculars; two temporals, the posterior scale-like (but

² Boulenger keys "*trilineata*" with the character of eight supralabials, and includes in his synonymy *trilineata* (described with seven), *taeniata* (described with seven) and *trivittata* (described with six). His only specimen (Bonacca Is., Honduras) was described by Günther as having seven supralabials. Specimens I have seen do not indicate the basis for such confusion.

slightly longer than broad); mental separated from chinshields; ventrals 158 to 159; caudals 44 to 52.

Mexican Localities. "Mexico."

Specimens Examined. None.

Remarks. Boulenger (Cat. Snakes, vol. 3, 1896, p. 216) concludes that the type (labelled Salle's collection) was not collected by Salle and is not from Mexico. There are facts, however, which indicate that it may actually have come from Mexico. Although the ventral count is matched by some South American specimens, it is lower than any Central American specimen related to *melanocephala* (i.e., *armillata*). Another specimen from Dueñas, Guatemala, referred by Boulenger (*op. cit.*, p. 221) to *fusca* and by Günther to *armillata* very closely matches the characters of *mexicana*, to which I have referred it. There is little doubt that these are distinct from *armillata*, and it is scarcely likely that they can be termed the same as the geographically distant *melanocephala*. In the absence of specimens in American museums it is at present impossible to determine its differential characters.

Tantilla miniata Cope.

Tantilla miniator Cope, *Proc. Acad. Nat. Sci. Phila.*, 1863, p. 100.

Tantilla miniata Cope, *Bull. U. S. Nat. Mus.*, no. 32, 1887, p. 84 (corrects spelling of specific name, which he says was printed *miniator* by "errore typogr.").

Homalocranium boulengeri Günther, *Biol. Centr. Amer.*, 1895, pp. 148-149, pl. 52, fig. F (Huatusco, Veracruz).

Type Locality. Mirador, Veracruz.

Diagnosis. Dark reddish-brown above, the color shaded into that of white ventral surface on the first scale row; head black above; a nuchal collar involving tips of parietals, bordered behind by black, covering one to two scale lengths; seven upper and lower labials; one preocular; two postoculars; two elongate temporals, the anterior in contact with postoculars; prefrontals separated from labials; mental and chinshields in contact; ventrals 159 to 161; caudals 46 to 49 (plus a few).

Mexican Localities. Huatusco and Mirador, Veracruz.

Specimens Examined. One.

Remarks. Related to *phrenitica*. Gadow's *miniata* from Tezonapan (Teconapan, Texonapan), north of Ayutla, Guerrero, cannot be the same, but its identity is difficult to guess (*Proc. Zool. Soc. London*, 1905, p. 196). Boulenger's incorrect allocation of Cope's name (to *deppei*) accounts for the recognition of *boulengeri*.

Tantilla moesta (Günther).

Homalocranium moesta Günther, *Ann. Mag. Nat. Hist.*, ser. 3, vol. 12, 1863, p. 352.

Tantilla moesta Cope, *Proc. Acad. Nat. Sci. Phila.*, 1866, p. 126.

Type Locality. Petén, Guatemala.

Diagnosis. Dark brown above, somewhat lighter but still heavily pigmented below; anterior part of head of same color as body; a very extensive nuchal collar involving over half of the parietals and laterally extending very nearly to the eye; seven upper and lower labials; one preocular; two postoculars; two temporals, not strongly elongate, the anterior in contact with postoculars; prefrontal in contact with labials; mental in contact with chinshields; ventrals 140 to 154; caudals 55 to 63.

Mexican Localities. Known from "Yucatán." Schmidt & Andrews' record for Mérida, Yucatán, refers to quite a different species (*cuniculator*).

Specimens Examined. Two.

Remarks. The species seems to have no very close relatives.

Tantilla nigriceps nigriceps Kennicott.

Tantilla nigriceps Kennicott, *Proc. Acad. Nat. Sci. Phila.*, 1860, p. 328.

Tantilla nigriceps nigriceps Smith, *Copeia*, 1938, no. 3, pp. 149-150.

Type Locality. Fort Bliss, New Mexico.

Diagnosis. Body light above and below; a black head cap V-shaped posteriorly, the apex extending over three to five scale lengths on nape; seven upper and lower labials; one preocular; two postoculars; two temporals, both considerably longer than broad, neither extremely elongate; primary temporal in contact with postoculars or not; prefrontals separated from labials or not; mental usually separated from chinshields, occasionally not; ventrals 146 to 161, caudals 35 to 62.

Mexican Localities. Known only from Río Santa María, near Progreso, Chihuahua.

Specimens Examined. Sixteen.

Remarks. The present form, with *fumiceps*, is very distinct from any other species.

Tantilla nigriceps fumiceps (Cope).

Scolecophis fumiceps Cope, *Proc. Acad. Nat. Sci. Phila.*, 1860, p. 371.

Homalocranium praecolum Bocourt, *Miss. Sci. Mex.*, Rept., 1883, pp. 582-583, pl. 36, fig. 8 (Colorado).

Tantilla kirnia Blanchard, *Zool. Ser. Field Mus. Nat. Hist.*, vol. 20, 1938, pp. 373-374 (9 miles east of Pleasanton, Atascosa Co., Texas).

Type Locality. Unknown, restricted to that of *kirnia*, 9 miles east of Pleasanton, Atascosa Co., Texas.

Diagnosis. Body light above and below; a black head cap V-shaped posteriorly, the apex extending over three to five scale lengths on nape; seven upper and lower labials; one preocular (rarely two); two postoculars; two temporals, both considerably longer than broad, neither extremely elongate; primary temporal in contact with postoculars or not; prefrontals separated from labials or not; mental usually separated from chinshields, occasionally not; ventrals 130 to 150 (males 130 to 138, females 141 to 150); caudals 39 to 48 (males 43 to 48, females 39 to 44).

Mexican Localities. Recorded only from Mier, Tamaulipas.

Specimens Examined. Seven.

Tantilla phrenitica sp. nov.

Holotype. U.S. National Museum No. 110381, female, collected at Cuautlapan, Veracruz, August, 1940. *Paratypes.* Twenty-five, including U.S.N.M. 110379-80, 110382-5, topotypes; U.S.N.M. 38134, Semacook (collected by Geo. P. Goll), Guatemala; U.S.N.M. 20835, Totontepec, Oaxaca; EHT-HMS 22367, El Limon Totalco, Veracruz; EHT-HMS 23561-70, 23572-76, 23582, topotypes.

Diagnosis. Dorsal surface dark, its color sharply differentiated from white or orange ventral surface; centers of lateral scales lighter than their edges; a nuchal collar, usually involving tips of parietals; snout dark; large postorbital light spot bordering edge of upper lip usually present; four anterior infralabials dark; seven upper and lower labials; one preocular; two postoculars; two elongate temporals, the posterior more elongate than the anterior, the latter in contact with postoculars; prefrontals separated from labials; mental and chinshields in contact; ventrals 135 to 147; caudals 36 to 42.

Description of holotype. Rostral about as high as broad, portion visible from above a little less than half its distance from frontal; internasals about half as long as prefrontals; length of frontal (1.9 mm.) greater than its width (1.5 mm.) or distance from tip of snout (1.8 mm.), or length of interparietal suture (1.7 mm.), less than maximum length of parietals (2.9 mm.); width of frontal about twice width of a supraocular (0.75 mm.); nasal completely divided, strongly indented below and somewhat less strongly above, anterior section broader than posterior section; preocular large, in contact with nasal; diameter of orbit (0.8 mm.) less than half its distance from tip of snout (2.0 mm.); two temporals, the secondary a little longer and narrower than primary; latter in contact with two postoculars (upper fused with supraocular

on one side, abnormal); seven supralabials, last much the largest, others not much different from each other in height; seven infralabials, fourth much the largest, four in contact with anterior chinshields; mental in contact with chinshields; posterior chinshields narrower than and about three-fifths the length of anterior pair.

Dorsals in 15 rows, smooth, not pitted; 137 ventrals; anal divided; 40 caudals; total length 175 mm.; tail 33 mm.

Color. Dorsal surface of head and body dark brown or black; color of head extending to labial border, except for a light spot (bordering lip) behind the eye, including the fifth supralabial and edges of adjacent scales; a light nuchal collar, involving tips of parietals and of secondary temporals, covering two scale lengths on the nape, somewhat broader laterally and including posterior half of seventh labial; body uniform dark, except that the centers of the scales are stippled lighter, visible only microscopically on most scales, but easily visible to the naked eye on first row of dorsals; dorsal pigment terminating abruptly at ends of ventrals; anterior portion of mental, and all of four anterior infralabials dark; remainder of infralabial border dark; remainder of ventral surfaces of body and tail unmarked; tail and posterior portion of body (ventrally) orange, brightest posteriorly, anteriorly becoming white.

Variation. In the twenty-five paratypes, one postocular occurs in three; 6-7 infralabials in three; 6-7 supralabials in one; ventrals 137 to 142, caudals 37 to 44 in twelve males, 135 to 147, and 36 to 42 in thirteen females. The nuchal collar involves the tips of the parietals in fifteen (barely in three), borders the parietals in ten; mental in contact with chinshields in all.

Discussion. This species is the same (apparently) as Boulenger's (Cat. Snakes, vol. 3, 1896, p. 222) Guatemala specimen referred to *schistosa*. It is not the same as Bocourt's *schistosa* (Miss. Sci. Mex., Rept., 1883, p. 585, pl. 36, fig. 10), however, described from Alta Vera Paz and Mexico. This species is described as having 121 ventrals (lowest *phrenitica* count is 135). This difference might be attributed to error in counting, except that *schistosa* is figured with a scale-like secondary temporal (always elongate in *phrenitica*), and completely without chin markings (mental and four anterior labials always dark in *phrenitica*).

The Mexican cotype of *schistosa* may belong to *phrenitica* (as I provisionally conclude), but if so it certainly is not the figured and described specimen, which must be considered the type and which probably is the Alta Vera Paz specimen.

***Tantilla rubra* Cope.**

Tantilla rubra Cope, *Journ. Acad. Nat. Sci. Phila.*, ser. 2, vol. 8, 1876, p. 144.

Type Locality. "Japana," Oaxaca (Tapana).

Diagnosis. Red (pink) above and below; snout, including internasals and half of prefrontals, white; rest of sides and top of head black, except for area involved in nuchal collar and a white circular area including the fifth labial and edges of adjacent scales; collar broad, including tips of parietals, extending anterolaterally to middle of seventh labial, extending posteriorly over two or three scale lengths; posterior border of collar black, extending over two or three scale lengths; seven upper and lower labials; one preocular; two postoculars; two elongate temporals, the anterior in contact with postoculars; prefrontals separated from labials, occasionally not; mental and chinshields in contact; ventrals 148 to 162, caudals 59 to 68.

Mexican Localities. Recorded from Santa Efígenia, Tapana, and various localities in the vicinity of Tehuantepec, Oaxaca; and 22 kilometers north of Tehuacán, Puebla. The British Museum specimen from Orizaba (Boulenger, *Cat. Snakes Brit. Mus.*, vol. 3, 1896, p. 219) does not seem to be *rubra*, nor can I allocate it with any other. It may be *bocourti*. Guanajuato records, of course, are incorrect.

Specimens Examined. Eleven.

***Tantilla striata* Dunn.**

Tantilla striata Dunn, *Amer. Mus. Nov.*, no. 314, 1928, p. 3.

Type Locality. Mixtequilla, Oaxaca.

Diagnosis. Three light lines on body, the median involving one and two half scale rows, the lateral involving adjacent halves of third and fourth rows; no nuchal collar, replaced by two rounded light spots involving tips of parietals; belly light; seven upper and six or seven lower labials; one preocular; two postoculars; two elongate temporals, the anterior broader than the posterior and in contact with postoculars; prefrontal separated from labials; mental in contact with chinshields; ventrals 157 to 165; caudals 34 to 42.

Mexican Localities. Known only from the vicinity of the type locality. Obviously related to *jani*.

Specimens Examined. Three.

***Tantilla wilcoxi wilcoxi* Stejneger.**

Tantilla wilcoxi Stejneger, *Proc. U. S. Nat. Mus.*, vol. 25, 1902, p. 156.

Type Locality. Ft. Huachuca, Arizona.

Diagnosis. Body light, above and below; head dark gray above and on sides as far as

lower border of eye; a lateral extension of head cap to labial border, including parts of sixth and seventh labials; black cap scarcely indented behind eye; snout pigmented; collar involving posterior tips of parietals, covering one to one and one-half scale lengths; a narrow black posterior border covering one scale length or less; seven upper and lower labials; one preocular; two postoculars; temporals elongate, the anterior in contact with postoculars; prefrontals and labials separated; mental and chinshields usually in contact, occasionally not; ventrals 149 to 164; caudals 62 to 69.

Mexican Localities. Mojaráchic, Chihuahua.

Specimens Examined. Six.

Remarks. This species is well differentiated from *bocourti*, which it resembles in color, by the shape of the secondary temporal. The narrow posterior border of the light collar, lack of sharp differentiation between white labial area and dark coloration of top of head, and absence of an indentation in the dark area behind eye differentiate this species from others of the group.

***Tantilla wilcoxi rubricata* subsp. nov.**

Holotype. U. S. National Museum No. 110399, male, fifteen miles southeast of Galeana, Nuevo León. *Paratypes.* U.S.N.M. No. 110398, topotype; E. H. Taylor-H. M. Smith No. 23473, Mt. Zapalinamé, Saltillo, Coahuila.

Diagnosis. Top of head dark gray, the color extending a little below level of eye, not very sharply differentiated from white of supralabial region; dark head color extending laterally to labial border on fifth and sixth supralabials; a narrow nuchal collar, covering little more than one scale length, involving tips of parietals (barely in one case); black border of nuchal collar very narrow, less than one scale length; head scales normal; ventrals 140 to 146; caudals 51 to 56; mental in contact with chinshields.

Description of holotype. Portion of rostral visible from above equal to length of internasals; latter little more than one-third length of prefrontals, about a fourth their size; frontal with four sides, two meeting in an obtuse anterior angle, sides curved, posterior angle acute; length of frontal (2 mm.) greater than its distance from tip of snout (1.8 mm.) or length of interparietal suture (1.6 mm.), much less than greatest length of parietal (2.9 mm.); maximum width of supraocular (0.9 mm.) more than half width of frontal (1.5 mm.); nasal apparently divided both above and below, naris pierced nearer upper edge than lower; anterior section of nasal larger and higher than posterior, which is elongate and in contact with preocular; two postoculars; two

elongate temporals, anterior in contact with postoculars; seven supralabials, last largest; seven infralabials, the first in contact with midventral line on one side; four labials in contact with anterior chinshields, one with posterior.

Scales in 15 rows throughout, smooth, not pitted; ventrals 140; anal divided; caudals 54.

Color. Dorsal surface brownish gray, stippled lightly; ventral surface white; head dark gray above, lighter on snout, the color extending on sides to below eye; head cap black around edges, extended laterally to labial border on portions of sixth and seventh supralabials; labial border white, not sharply differentiated from dark color; a small indentation of head cap behind eye, not reaching upper postocular; a narrow white nuchal collar of about one and one-half scale lengths, involving tips of parietals; collar bordered posteriorly by a narrow black band covering less than one scale length; lower labial border stippled.

Variation. The topotypic female is very similar in color, markings and scutellation. The mental is in contact with both anterior chinshields. Ventrals 146, caudals 51.

The specimen from Mt. Zapalinamé has six supralabials, the normal sixth and seventh fused; six infralabials on one side (second and third fused); nasal not divided above naris; nuchal collar barely involving extreme tips of parietals; some black stippling on some of the median belly scales; ventrals 144, caudals 56. The black posterior border of the nuchal collar is very narrow, nearly obsolete. Despite these numerous differences I believe this is the same as the Galeana specimens. It is obviously anomalous in some characters, and in addition has several of the posterior ventrals divided medially.

Tantilla yaquia sp. nov.

Holotype. Museum of Comparative Zoology No. 43274, female, collected at Guasaremos, Río Mayo, Chihuahua, by H. S. Gentry, in August, 1936.

Diagnosis. Dorsal surface light brown, light below; head dark brown, black on sides and posteriorly, the cap extending about three scale lengths posterior to parietals; a faint nuchal collar, about one scale length, without a dark posterior border; a white area bordering lip behind eye, extending to middle of primary temporal; cap extending below angle of mouth; naris nearer upper than lower edge of nasal; latter divided above and below; ventrals 150, caudals 66.

Description. Length of portion of rostral visible from above about equal to length of internasals; latter a little less than half size of prefrontals; frontal hexagonal, anterior

angle obtuse, posterior angle a little less than right angle, sides slightly convergent posteriorly; frontal a little longer (2.2 mm.) than broad (1.8 mm.), longer than its distance from tip of snout (1.8 mm.), subequal to length of interparietal suture, considerably less than maximum length of parietal (3.2 mm.); maximum width of supraocular (0.9 mm.) no more than half width of frontal; naris pierced somewhat nearer upper than lower edge of nasal; posterior section of nasal about two-thirds size of anterior section, subequal to single preocular; two postoculars; two elongate temporals, the primary broader and in contact with postoculars; seven infralabials, fourth and fifth entering eye, 1-2-3-5-4-6-7 in order of increasing size, seventh much the largest; seven infralabials, four in contact with anterior chinshields; mental in contact with chinshields, the anterior pair of which is longer than the posterior.

Scales in 15 rows, smooth, not pitted; ventrals 150; caudals 66. Total length 240 mm.; tail 61 mm.

General ground color light brown above, clear below; top of head dark brown, tip of snout a little lighter; sides of head black, except lower parts of subocular and second labial, all of first, fifth and sixth labials, anterior half of seventh labial and lower half of primary temporal, all of which are cream-color; black on sides of head continuous with a black area extending posteriorly to cover about three scale lengths of neck; latter area extending laterally below corner of mouth onto first row of gulars, involving posterior half of seventh labial; posterior border of head cap straight on dorsal surface, curving forward on sides of head; a light collar about one scale wide, poorly defined, bordering head cap posteriorly, followed by brown stippling of the back, its posterior edge not otherwise marked; stippling on back light, most distinct at edges of scales; some stippling at ends of ventrals, and in gular region; ventral surface otherwise unmarked.

Comparisons. The present form is closely related to *eiseni* and *planiceps*. *T. eiseni* has the naris equidistant from upper and lower edges of nasal; ventrals more numerous (165 to 190); no light area behind eye, extending from labial border to middle of primary temporal; head flatter, snout more protruding. This and *yaquia* seem to be more closely related to each other than either is to *planiceps*, which has low ventral counts and nasal not divided above naris.

KEY TO NORTH AMERICAN *Tantilla*.

1. Ventral surface heavily pigmented. *moesta*
Ventral surface light, only extreme lateral tips of ventrals sometimes pigmented. . 2
2. A lateral light stripe (a median also, but

- sometimes dim) at least anteriorly; no median middorsal dark stripe.....3
 No lateral light stripes; or, if present, a middorsal dark stripe also present....4
3. Two light spots on nuchal region, involving tips of parietals; ventrals 157 to 165, caudals 34 to 42.....*striata*
 A light nuchal collar, involving tips of parietals; ventrals 139 to 154, caudals 40 to 50.....*jani*
4. A lateral light stripe and a middorsal dark stripe; neck as well as head dark, collar (if present) crossing neck several scales back of head.....*mexicana*
 Not as described.....5
5. Body with three or five distinct dark stripes.....6
 Body not striped; or, if so, with only a median stripe.....8
6. A light nuchal collar (may be broken medially); seven supralabials; five dark lines on body.....*deppei*
 No light collar; six supralabials; three dark lines.....7
7. Lateral stripe on adjacent halves of fourth and fifth rows; no preocular; ventrals 114; caudals 39.....*martindelcampoi*
 Lateral stripe on adjacent halves of third and fourth rows; a preocular (sometimes very minute); ventrals 119 to 132; caudals 27 to 35.....*calamarina*
8. Dorsal surface of body dark and the dark color sharply differentiated from lighter ventral color at ends of ventrals.....9
 Dorsal surface of body dark or light, but if dark, the color not sharply differentiated from lighter ventral color at ends of ventrals.....10
9. Sides of body darker than middorsal area, the two areas rather sharply differentiated and separated by a dim, narrow, light line; ventrals 140 to 154; caudals 49 to 53.....*cuniculator*
 Sides of body not darker than nor distinctly differentiated from color of middorsum; ventrals 121 to 147; caudals 32 to 43.....*phrenitica*
10. Head of about same color as back or, if darker, its color not sharply differentiated from that of back; and no light nuchal collar.....11
 Head black or dark brown, sharply differentiated from color of back, or, a light nuchal collar present.....12
11. Sides of head of same color as top; a dorsal light stripe (in fresh material); seven supralabials; two postoculars; ventrals 105 to 114.....*canula*
 Labial border white, rather sharply differentiated from dorsal color of head; no dorsal light stripe; usually six supralabials; usually one postocular; ventrals 115 to 138.....*gracilis*
12. Black head cap V-shaped, its apex extending three to five scale lengths posterior to parietals on middorsal line; no nuchal collar; body light.....13
 Black head cap with a straight or slightly convex posterior margin; a nuchal collar at least faintly visible, not necessarily dark-edged behind; body dark or light.14
13. Ventrals in males 146 to 159, in females 150 to 161.....*nigriceps nigriceps*
- Ventrals in males 130 to 138, in females 141 to 150.....*nigriceps fumiceps*
14. Nuchal collar indistinct, of about one scale length, not dark-edged posteriorly (sometimes a few black dots).....15
 Nuchal collar very distinct, usually of more than one scale length, dark-edged posteriorly.....20
15. Black of head extending below angle of mouth onto gular scales, and posteriorly two or more scale lengths.....18
 Black of head not extending below angle of mouth onto gular scales, and posteriorly two or less scale lengths.....16
16. A fine, distinct, black, middorsal line; three temporals; ventrals 129 in type; usually (?) one postocular.....*hobartsmithi*
 No middorsal dark line; two elongate temporals; ventrals 127 to 160; usually two postoculars.....17
17. Ventrals in males 153 to 160, in females 163 to 172.....*utahensis*
 Ventrals fewer.....*atriceps*
18. Ventrals 134 to 141; nasal not divided above naris.....*planiceps*
 Ventrals more numerous; nasal divided above naris as well as below.....19
19. Ventrals 165 to 190; naris equidistant from upper and lower edge of nasal; no light area bordering lip behind eye and extending to middle of primary temporal.....*eiseni*
 Ventrals 150 in female type; naris much nearer upper than lower border of nasal; a light area bordering lip behind eye, extending to middle of primary temporal.....*yaquia*
20. Anterior temporal about as broad as long, scale-like.....*bocourti*
 Anterior temporal elongate, much longer than broad.....21
21. Posterior black border of nuchal collar covering one scale length or less....22
 Posterior black border of nuchal collar covering two or three scale lengths...23
22. Ventrals 149 to 164, caudals 62 to 69.....*wilcoxi wilcoxi*
 Ventrals 140 to 146, caudals 51 and 56.....*wilcoxi rubricata*
23. Black of dorsal surface of head not reaching labial border.....*deviatrix*
 Black of dorsal surface of head reaching labial border.....24
24. Nuchal collar covering two or three scale lengths, about as wide as its posterior border; snout white; dorsal and ventral surfaces pink.....*rubra*
 Nuchal collar much narrower, narrower than its posterior border; snout not white.....25
25. Ventrals in males 131 to 141, average 135; in females 139 to 148, average 143; caudals in males 42 to 51, average 46; in females 41 to 46, average 44; light band on back of head well defined although often interrupted on the midline.....*coronata coronata*
 Ventrals in males 119 to 129, average 127; in females 123 to 145, average 131; caudals in males 50 to 67, average 57, in females 41 to 59, average 51; light band on back of head usually more or less obliterated.....*coronata wagneri*